REMARKS

Claims 1-25 were filed and examined in the January 4, 2005 office action. In that action, all claims were rejected on obviousness grounds. For the following reasons, the stated grounds for rejection are improper, and the claims are patentable over the cited references as applied.

Claims 1, 10, 14, and 22 are independent and were rejected on the same ground, namely, under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,456,603 to Ismailov et al. ("Ismailov") in view of U.S. Patent No. 6,247,055 to Cotner et al. ("Cotner").

The present invention, in general terms, is directed to providing security for a file transfer over a network from a server to a requesting client. Whereas in the prior art the client directs the request to a single IP address and the server transfers the entire file from that IP address, the present invention includes separately handling subsets of the file (or "dataset") by associating the subsets with different IP addresses and requiring the client to access each such IP address in a specific sequence in order to obtain the entire file. Security arises from the pattern of the IP address changes being known to or determinable by the client and the server, but difficult to obtain by another.

Although the examiner characterized Ismailov and Cotner as in the same field of invention as the present invention, neither is directed to providing secure file transfer over a network from a server to a requesting client. Rather, both Ismailov and Cotner are directed to the problem of reconnecting an interrupted communication session between a client and a server when their network addresses change as a consequence of the interruption. In the systems of Ismailov and Cotner, it would be desirable for the client and server to maintain their IP addresses throughout an entire communication session; any change in IP address occurs due to a communication failure, not on purpose, and the change is an externally imposed problem that is addressed by their inventions, not a feature of their inventions. In the systems of Ismailov and Cotner, a file to be transferred from a

server to a requesting client is not divided into subsets for purposes of such a transfer, and so there are no subsets of a file to be transferred that are each associated by the server with one of a plurality of different IP address at which the client must request them. Subsets in Ismailov and Cotner that are associated with different IP addresses are <u>temporal</u> subsets of a <u>communication session</u> that are created when a communication session is interrupted. Exactly where in a communication session an interruption occurs (and whether it occurs) is a random external event. Consequently, exactly where the communication session is partitioned, into a pre-interruption portion associated with a pre-interruption IP address and a post-interruption portion associated with a post-interruption IP address, is a random external event.

Against that background, the claim language and the prior art citations will be addressed. The rejection did not differentiate among the independent claims, and it is clear that the rejection did not even attempt to address the specific language of each independent claim. For instance, claim 10 recites:

> 10. A method of accessing a data set, comprising:
> selecting a first IP address that is associated with a first subset of the data set,
> requesting the first subset at the first IP address,
> selecting a second IP address that is associated with a second subset of the
> data set, the second IP address being different from the first IP address, and
> requesting the second subset at the second IP address.

According to the rejection, this is disclosed in Ismailov at col. 6 lines 3-9 and 59-67 and in Cotner in the abstract and at col. 1 lines 40-62, and the motivation for combining those disclosures is found in Ismailov at col. 6 lines 59-67. A review of the cited sections shows that this is not the case.

Ismailov states at col. 6 lines 3-9:

> The TS 102 handles the network connection using access networks, and depending on
> the communication scenario employed, the TS can use different IP addresses.
> Notably, as a consequence of separating the AS and TS levels, a change made to an
> access network and/or an IP address during a communications session is transparent
> to the AS.

The rejection characterized the above passage of Ismailov as teaching "a system and method providing access to each subset of the data set via a request for the subset at the select IP address." That characterization is incorrect. The cited language discloses nothing whatsoever regarding subsets of a data set, or a select IP address for a subset. In particular, it discloses nothing whatsoever regarding first and second subsets of a data set, each having a different IP address associated with it, or accessing the data set by requesting each subset at its respective IP address, as claimed. Nor does anything else in Ismailov. A text search for "set", "sub", "request", and "select" in Ismailov shows that no occurrence of these terms has any relevance to the claims.

The citations to Cotner are as follows:

A client connected to a multi-server system, (e.g., a parallel database management system) can locate a server product that may have moved to a different network address within the multi-server system. For example, a client is able to perform two-phase commit and automatic resynchronization with a same DBMS server that may have moved to a new network address before a transaction was committed. A unique resync port number is assigned to each server member when the server member is started up. The server's physical IP address and resync number are stored in a list in a global area accessible by each server member. When a client establishes a connection to a server member, the client will receive the server member's resync number or the global list. The client records the server's unique resync number in the client's dataset. If the client experiences a communication failure with that server, the client will send a message to a Domain Name Server requesting an IP address of any active server in the network. Upon receipt of an address, the client will send a connect message to that address. Upon receipt of the connection request message, that server can either send to the client a copy of the global list as part of the initial handshaking or scan the list and send to the client the IP address corresponding to the resync number of the desired server member. The client performs a resynchronization process via the IP address associated with that resync port number. (Cotner, abstract)

FIG. 1 illustrates a sysplex environment 100 of three computers 101, 102, 103 sharing disk space such as a pool 110 of disk drives 111-114 where the database resides. FIG. 1 is illustrative of systems having a "shared-disk" architecture, i.e., where multiple computer systems in the sysplex share a common pool of disk devices. Other systems have a "share-nothing" architecture, where <u>each of the computers in the sysplex own a subset of the data managed by the parallel DBMS sysplex</u>. In either architecture, each system 101, 102, 103 has its own physical copy of a database management system product 121, 122, 123. Also, in both architectures, each system 101, 102, 103 has a

separate log dataset 151, 152, 153, respectively, for managing the commit or roll back of a unit of work. This separate log dataset can only be accessed by the DBMS that owns it. All of the DBMSs 121-123 know how to communicate back and forth to each other, and they know how to manage the pool of data 110 that is common to them. An example of a sysplex environment is an IBM parallel scalable sysplex such as the sysplex capable CMOS 390 systems which have a sysplex timer, a coupling facility, and fiber optic communication links. (Cotner, col. 1 lines 40-62; emphasis added)

The abstract discloses a way for a server and client to find each other after a communication failure. The column 1 citation discloses a prior art parallel database management network architecture.

The rejection characterized the above passages of Cotner as teaching "specific details regarding the associating each subset of data comprising the data set to a select IP address of a plurality of IP addresses, at least two of the subsets comprising the data set having different select IP addresses of the plurality of addresses." Although the passage from Cotner column 1 certainly refers to data subsets (see underlined portion), the Cotner citations do not provide any disclosure, let alone "specific details," regarding associating each of a plurality of subsets of a requested data set with a select IP address.

The rejection states that "Ismailov motivates the exploration of the art of sending data to a client to be used to facilitate further communication between the client and the server," citing col. 6 lines 59-67. Ismailov deals with facilitating a client and server finding each other if their communication session is interrupted and their IP addresses change. Ismailov certainly does not motivate one generally to exhaustively explore all aspects of the field of client-server communication facilitation, thereby rendering obvious all that might be found in such an exploration. Nor does Ismailov suggest the specific modifications that would be necessary to form the claimed invention.

Accordingly, the cited portions of Ismailov and Cotner do not disclose any of the elements of claim 10. For the same reasons, the cited portions of Ismailov and Cotner do not disclose any of the

elements of claim 22.

Claim 1 claims a method of providing access to a data set comprising an associating step and a subsequent access-providing step that depends on the associating step. For the reasons described above, Cotner does not disclose or suggest a method of providing access to a data set including the claimed step of associating each subset of the data set to a select IP address, at least two of the subsets having different select IP addresses. For the reasons described above, Ismailov does not disclose or suggest a method of providing access to a data set including the claimed step of providing access to each subset of the data set via a request for the subset at the select IP address associated with the subset in the associating step. Accordingly, claim 1 is not unpatentable over Ismailov and Cotner.

Claim 14 claims a server system comprising a dataset that includes a plurality of subsets, at least two of which are associated with different IP addresses, wherein access to each subset is provided in response to a request for it at its associated IP address. For the reasons described above, Cotner does not disclose or suggest a server having a dataset that includes a plurality of subsets, at least two of which are associated with different IP addresses. For the reasons described above, Ismailov does not disclose or suggest a server providing access to each subset of a data set via a request for the subset at its associated IP address associated with the subset in the associating step. Accordingly, claim 14 is not unpatentable over Ismailov and Cotner.

Claim 2, and apparently also claims 15 and 23, were rejected on the assertion that Cotner discloses communicating information to a client system that facilitates determination of the IP address for each subset, citing Cotner column 7 lines 29-39. However, what is disclosed in the cited passage is the transmission of a resynchronization port number that a client can use in the process of reestablishing connection with the server at a new IP address if connection is lost. There is no

disclosure regarding determination of the IP addresses of the subsets of data in the data set, as claimed in claims 2 and 23. There is also no disclosure in that passage, nor any apparent attempt in the rejection to point out any disclosure, of communication of information to the client regarding a specific order in which to access subsets of the data set, as claimed in claim 15.

Dependent claims 3, 6, and 16 were rejected under 35 U.S.C. § 103(a) in view of Ismailov, Cotner, and further in view of the definition of secure channel in Newton's Telecom Dictionary. Because the date of the cited 18th edition is 2002 and the application was filed in 2001, this rejection was improper. It is noted that a prior edition of this work does not contain a definition of secure channel.

Dependent claims 4 and 17, relating to the data subsets being accessed over different communication channels than the access-related information, were rejected under 35 U.S.C. § 103(a) in view of Ismailov, Cotner, and further in view of U.S. Patent No. 6,694,436 to Audebert. The rejection cited claims 16-18 of Audebert. These are claims that depend on Audebert's claims 15, 14, 13, and 1, which extend about one and a half columns in total and are written in means-plus-function form. The undersigned does not understand which elements of the Audebert disclosure the examiner has in mind as providing the claimed means, nor how such disclosure is believed to relate to data subsets being accessed over different communication channels than the access-related information. If a ground for rejection based on Audebert is maintained, it is requested that references to the detailed description and the drawings be provided.
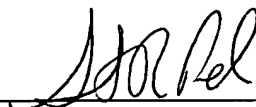
Dependent claims 5, 6, 11-13, 18, 19, 24, and 25 were rejected under 35 U.S.C. § 103(a) in view of Ismailov, Cotner, and Audebert, and further in view of U.S. Patent No. 6,658,473 to Block et al. and U.S. Patent No. 6,266,335 to Bhaskaran. Block is cited for its disclosure of a pseudorandom process for selection of a server for load balancing, and Bhaskaran is cited for its

disclosure of encrypted communication using keys. Applicant does not claim to have invented pseudorandom processes or encrypted communications using keys. However, that does not preclude patentability. Block and Bhaskaran, who did not invent them either, obtained patents with claims directed to these elements. It is again submitted that a reference does not motivate anyone to "explore" all areas of the arts to which it may be applied so as to render obvious all combinations of its teachings with other matter. It is respectfully submitted that there is no suggestion in the references for applying the matter in the subject dependent claims in the context of the IP address-hopping systems of the claims on which they depend. The same is true for the rejections based, in addition to Ismailov and Cotner, of claim 7 based on the cited patent to Kavak and of claims 8, 9, 20, and 21 based on the cited patent to Eldreth.

The office action summary included a check in box 9, indicating an objection to the specification, but the detailed action did not describe any such objection. It is assumed that there is no such objection.

It is respectfully submitted, in view of the foregoing, that the application is in condition for allowance. Reconsideration and further examination is requested, and a notice of allowance is earnestly solicited.

Respectfully submitted,

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